

Appl. No. 10/714,001
Examiner: PHAM, THANHHA S, Art Unit 2813
In response to the Office Action dated March 8, 2005

Date: July 5, 2005
Attorney Docket No. 10113201

REMARKS

Responsive to the Office Action mailed on March 8, 2005 in the above-referenced application, Applicant respectfully requests amendment of the above-identified application in the manner identified above and that the patent be granted in view of the arguments presented. No new matter has been added by this amendment.

Present Status of Application

Claims 18 and 19 are objected to under 37 C.F.R. 1.75(c) as being of improper dependent form. Claims 1 and 5-7 stand rejected under 35 U.S.C 102(e) as being anticipated by Amo et al (US 6,690,053). Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Amo et al in view of Koubuchi et al (US 6,664,642). Claims 10-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Amo et al in view of Saito et al (US 6,399,438). Claims 12-17 and 20 are allowed. Claims 2-4 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

In this paper, claims 1-4 and 18-19 are amended. Claim 1 is amended to include the limitation "wherein the top surface of the conductive layer is lower than that of the gate electrode." Support for this limitation can be found in Fig. 2C and page 7, lines 4-8 of the application. Claims 2-4 are amended to recite "blanketly forming a layer of conductive material overlying the substrate" and "removing a portion of the conductive material layer, leaving the conductive overlying the drain region and source region, wherein the top surface of the conductive layer is lower than that of the gate electrode." Support for these limitations can be found in page 6, lines 27-30, page 7, lines 1-8, and Fig. 2B-2C of the application. Claims 18 and 19 are amended to correct typographical errors. The summary is amended to correspond to amended claim 1. Thus, after entry of this amendment, claims 1-20 are pending.

Reconsideration of this application is respectfully requested in light of the amendments and the remarks contained below.

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Objections to the Claims

Claims 18 and 19 are objected to under 37 C.F.R. 1.75(c) as being of improper dependent form. In this paper, claims 18-19 are amended to correct typographical errors. Namely, claims 18 and 19 are amended to correctly depend from claim 12. It is Applicant's belief that the objections to claims 18 and 19 are thereby overcome.

Allowed Claims

Applicant thanks the Examiner for allowing claims 12-17 and 20. Insofar as the objections to claims 18 and 19 are overcome for the reasons described above, it is Applicant's belief that claims 12-20 are now in condition for allowance.

Rejections Under 102(e)

Claims 1 and 5-7 stand rejected under 35 U.S.C 102(e) as being anticipated by Amo et al. (US 6,690,053). Applicant respectfully traverses the rejections for the reasons discussed below.

Amo et al teach a method of manufacturing a shared contact in a semiconductor device in which DRAMS and SRAMS are combined. In Amo et al, doped polysilicon 19 is buried in the lower contact of a bit line direct contact, and doped polysilicon 20 is buried in a storage node direct contact. See Fig. 1 and column 6, lines 26-64 of Amo et al.

Amo et al do not teach or suggest a method for forming a bit line contact comprising the steps of providing a substrate with a transistor thereon, the transistor having a gate electrode, drain region, and source region, and forming a conductive layer overlying the drain region, wherein the top surface of the conductive layer is lower than that of the gate electrode, as recited in claim 1.

To anticipate a claim, a reference must teach every element of the claim. In this regard, the Federal Circuit has held:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros.*

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v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As amended, claim 1 recites a method for forming a bit line contact comprising the steps of providing a substrate with a transistor thereon, the transistor having a gate electrode, drain region, and source region, and forming a conductive layer overlying the drain region, wherein the top surface of the conductive layer is lower than that of the gate electrode. This unique feature avoids both CB opening and word line-bit line shorts. See page 9, lines 3-9 of the application.

In the office action, the Examiner relies upon doped polysilicon plug 19 to teach the conductive layer recited in claim 1. However, as clearly illustrated in Figs. 1 and 4 of the patent, Amo et al teach that the top surface of the plug 19 is higher than that of the gate electrode 7. Applicant therefore submits that Amo et al fail to teach that the top surface of the conductive layer is lower than that of the gate electrode, as recited in claim 1.

For at least the reasons described above, it is Applicant's belief that Amo et al fail to teach or suggest all the limitations of claim 1. Applicant therefore respectfully requests that the rejection of claim 1 be withdrawn and the claim passed to issue. Insofar as claims 2-11 depend from claim 1 either directly or indirectly, and therefore incorporate all of the limitations of claim 1, it is Applicant's belief that these claims are also in condition for allowance.

Rejections Under 35 U.S.C. 103(a)

Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Amo et al in view of Koubuchi et al. Claims 10-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Amo et al in view of Saito et al.

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As noted above, it is Applicant's belief that that claims 8 and 10-11 are allowable by virtue of their dependency from claim 1. For this reason, the Examiner's arguments in connection with these claims are considered moot and will not be addressed here.

Foreign Priority Claim

Acknowledgment of Applicant's claim to foreign priority under 35 USC 119(a)-(d) or (f) and receipt of the certified copies of the priority document(s) is respectfully requested.

Conclusion

The Applicant believes that the application is now in condition for allowance and respectfully requests so.

Respectfully submitted,



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